Mobile Kit

User Manual

HEATH CONSULTANTS

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This manual dated January 2012 supersedes all previous manuals for this kit.

102315-0 MOBILE KIT INSTALLATION MANUAL REV F
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MOBILE KIT

Installation Manual

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www.heathus.com

Heath....Safety, Leadership, Innovation, Performance
Then, Now and Tomorrow

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CHAPTER ONE

DP Mobile Kit Installation

NOTE: This manual and all reference drawings are applicable to both 4 and 6 cone installations.

Installation Instructions:
This installation kit is designed to permit installation of a DP mobile kit in virtually any vehicle. Follow the step-by-step instructions carefully.

Depending on your specific installation all parts in the kit may not be used. Save any extra parts until the installation is complete.

Secondary Pump Installation:
Note: Due to vehicle variations, installation of some parts will be described referring to schematics only, not referring to mechanical drawings.

Select a level area to mount the Secondary Pump. Typical locations may be within the engine compartment, inside the cab or inside a tool compartment. Ensure that the position will allow easy access to the glass filter bowls on the pump but away from moving parts or hot surfaces. Minimize the distance from the front cones to the instrument as much as possible. Long tube runs will increase the delay of the system.

Mark the location of the Secondary Pump mounting holes on the vehicle surface and drill four .257 diameter mounting holes through the surface making sure the opposite side is clear of obstacles. Mount the Secondary Pump Assembly using four ¼-20 x 1-1/2 bolts (8306610) and ¼-20 nuts (8301459).

Saddle and Instrument Installation:
Ref drawing 102309: Position Floor Mounting Plate (0414493) on the vehicle floor so there is ample clearance for legs, shift levers etc. When the desired position has been determined drill four .257diameter mounting holes through the floor making sure the opposite side is clear of obstacles. Mount Floor Plate inside the vehicle and Support Plate outside the vehicle using ¼-20 x 1-1/2 screws 8304160 and ¼-20 nuts 8301459. Install Post 0413819 in Floor Plate and secure with two 5/16-18 set screws (0111685). If required use optional wedges (100026-0) to straighten or angle Post as desired.

Slip Saddle Assembly (103566-0) on Post and secure with screws supplied in Saddle. Adjust Saddle to desired position and angle then place your DP instrument in the Saddle. If desired secure instrument to Saddle with elastic straps.

Wiring:
Ref. Schematic drawing 102318: Determine the shortest distance for running wires from the vehicle instrument panel through the firewall to the Secondary pump Assembly. Once determined, drill a ¾" diameter hole through the firewall and install bushing (8305905).
Drill a ½" hole in the vehicle instrument panel and mount the Switch part of Cable Assembly 102314-0 and ON/OFF plate 0214274 in the hole. Make sure the switch is in the off position before connecting any wiring. Feed the white and red wires of the Cable Assembly thru the bushing in the firewall. Connect the ring terminal from the white wire of the Cable Assembly to the plus terminal of the vehicle battery. Connect the red wire of the Cable

Assembly to the fused side of the Secondary Pump wiring using splice (0211936). Connect the non-fused wire from the Secondary Pump to the negative terminal of the vehicle battery using the Black wire supplied in the kit.

Sample System and Tubing:
Ref. Schematic Drawing 102317: Attach Boom Assembly (100001-2) to the vehicle front centered on the bumper with 2 holders 0413599. Adjust the funnel height to be one inch above the ground with the vehicle fully loaded.

Route and connect Sample Line Tubing (8301846) between boom manifold outlet and Secondary Pump inlet.

Route and connect Sample Line Tubing between the Secondary Pump outlet the By Pass Valve inlet.

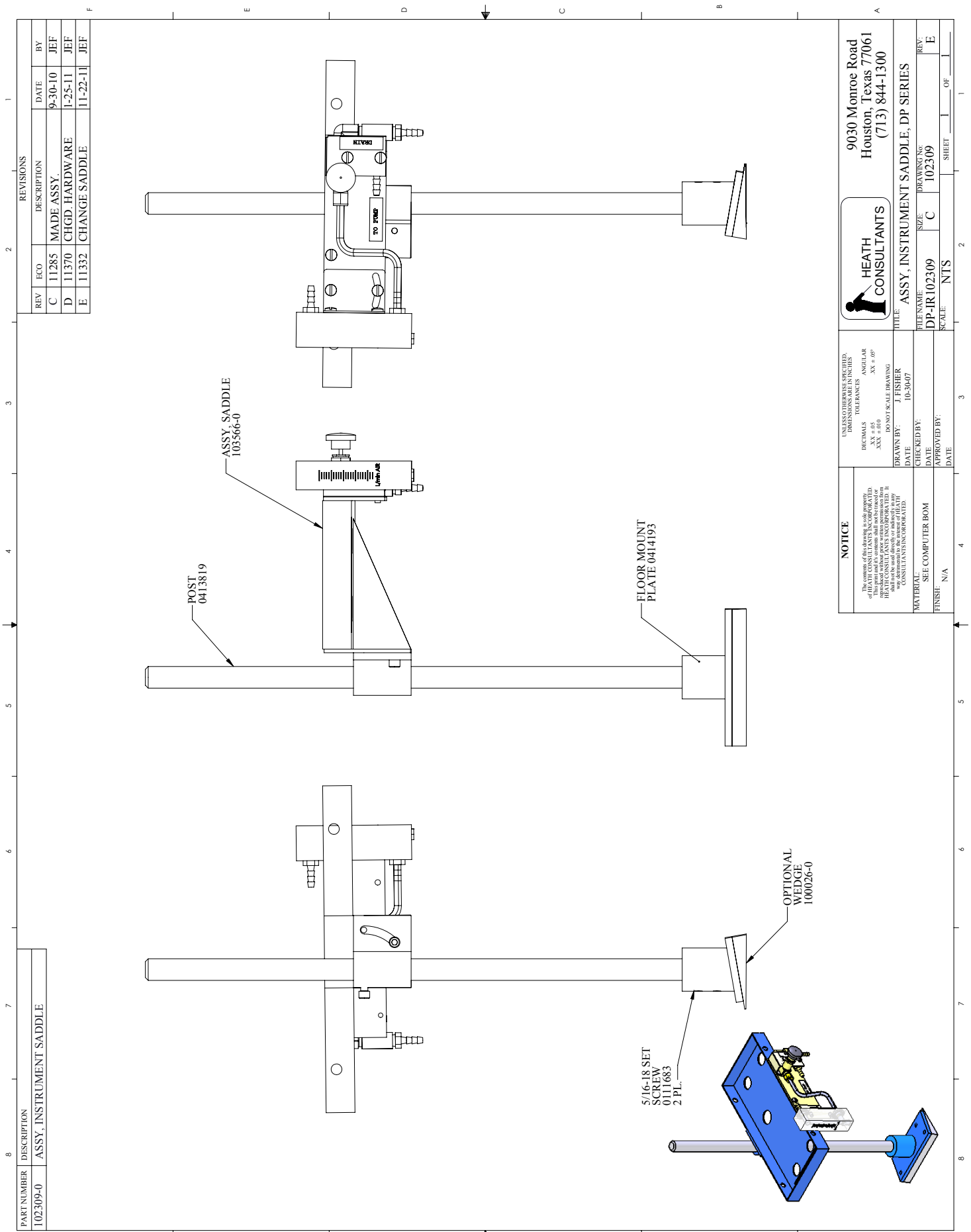
Route and connect Sample Line Tubing from the By Pass Vale exhaust port to the outside of the vehicle (typically through the floor).

Route and connect Instrument Sample Line Tubing from the By Pass Vale Instrument Port to the Instrument location. Attach the proper connector for either the DP4 or DP-IR.

Completing installation: Use as many Tie Wraps (8300319) as needed to tie all wires and tubing into a bundle. Tie gently to prevent tubing restriction (Don't pinch the tubing). Adhesive Clamps (0211942) are used for final positioning. Alcohol or another cleaning agent must be used to clean each area where the clamp is to be placed.

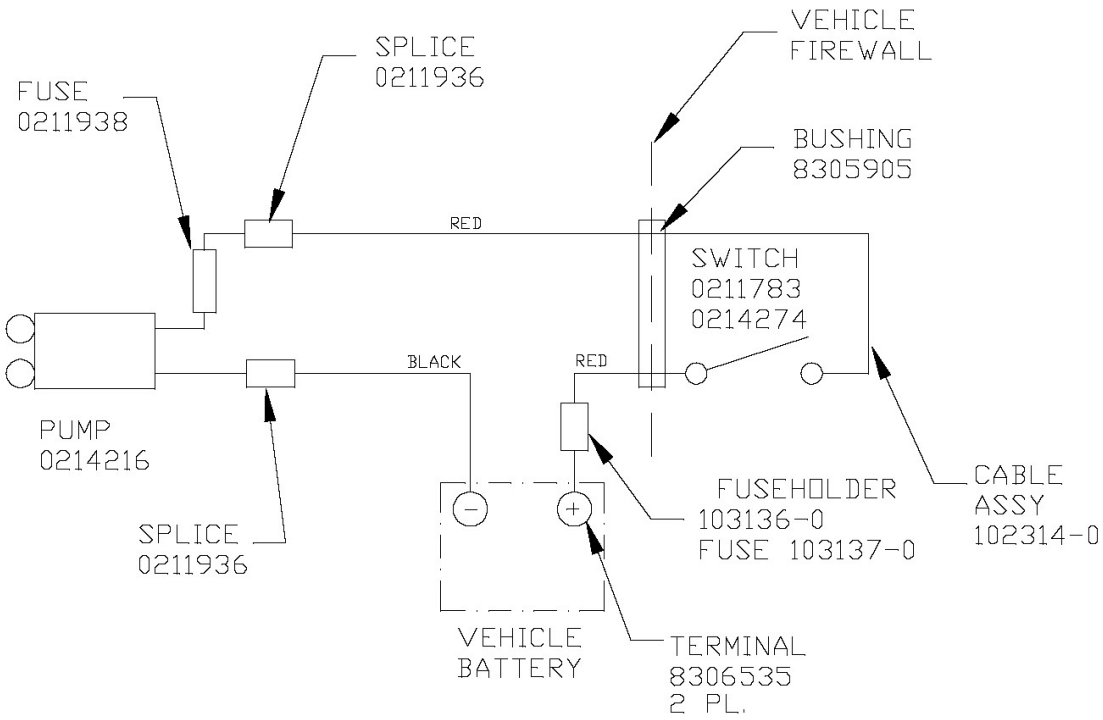
NOTE: KEEP WIRES AND TUBING AWAY FROM MOVING PARTS AND HOT SURFACES.

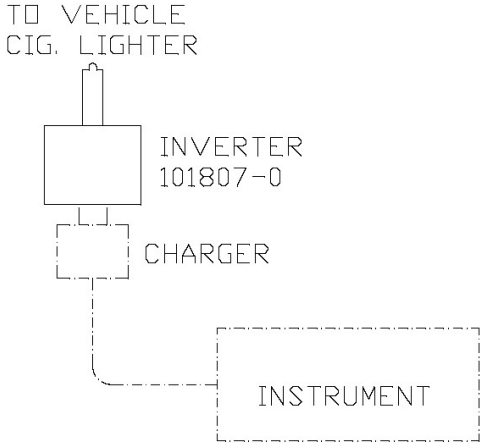
Assembly, Instrument Saddle Drawing 102309



PART NUMBER	DESCRIPTION
102318	SCHEMATIC, ELECTRICAL, MOBILE KIT

REVISIONS			
REV	DESCRIPTION	DATE	BY
C	ECO 11050	6-4-09	JEF





CHARGING ARRANGEMENT

NOTES:
1. ITEMS DRAWN WITH THIS LINE FONT - - — - - ARE NOT PART OF KIT.

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UNLESS OTHERWISE NOTED:
DIMENSIONS ARE IN INCHES
TOLERANCES
DECIMALS: .XX ± .05, .XXX ± .010
ANGULAR: .XX ± .05
DO NOT SCALE DRAWING

DRAWN BY: J. FISHER
DATE: 11-5-07

CHECKED BY:
DATE:

APPROVED BY:
DATE:

MATERIAL: SEE COMPUTER BOM 102316-0

FINISH: N/A

HEATH CONSULTANTS
9030 Monroe Road
Houston, Texas 77061
(713) 844-1300

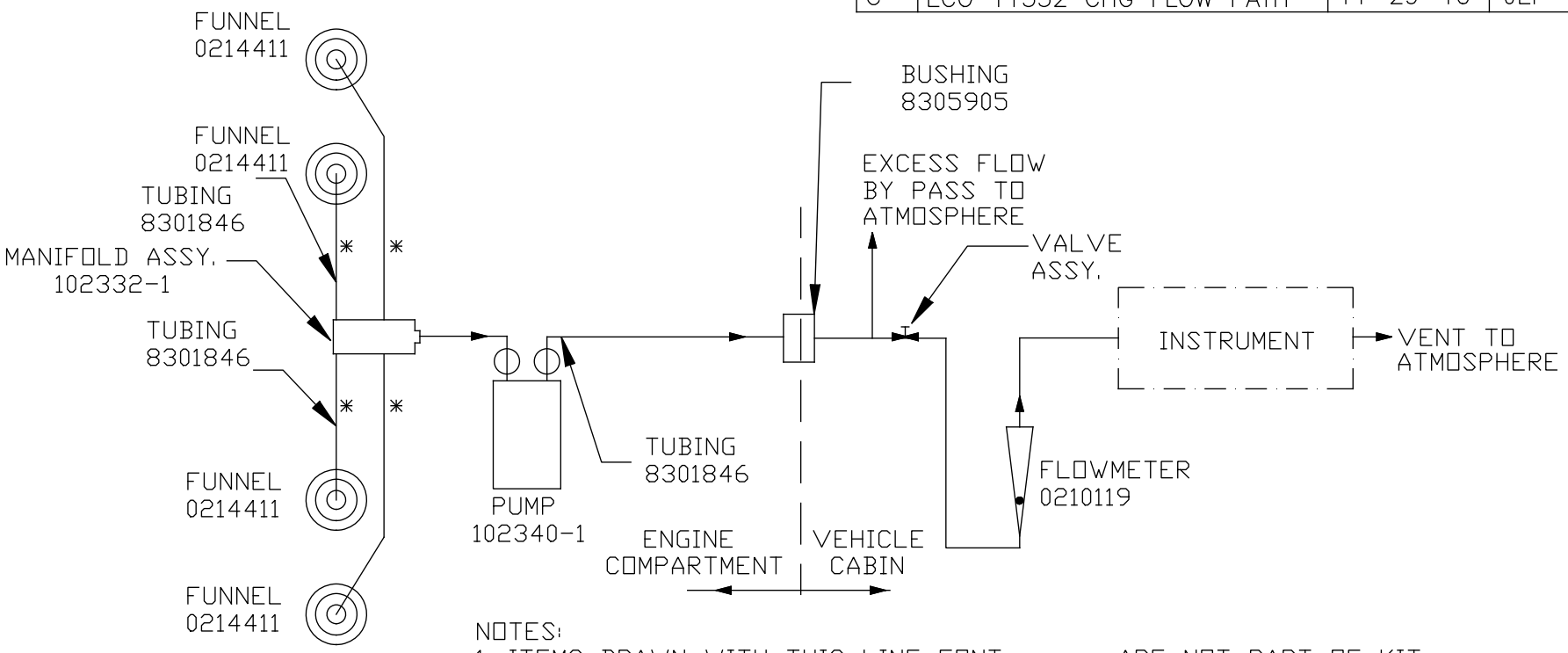
TITLE: SCHEMATIC, ELECTRICAL, MOBILE KIT

FILE NAME: DP-IR102318
SIZE: A
DWG. No.: 102318
REV.: C

SCALE: NTS
SHEET 1 OF 1

PART NUMBER	DESCRIPTION
102317−1	SCHEMATIC, FLOW, MOBILE KIT, 4 CONE, NEW STD.

REVISIONS			
REV	DESCRIPTION	DATE	BY
B	ADDED DASH −1,SHEET2	9−16−10	JEF
C	ECO 11332 CHG FLOW PATH	11−29−10	JEF



NOTES:
1. ITEMS DRAWN WITH THIS LINE FONT — — — ARE NOT PART OF KIT.
2. TUBES MARKED * MUST BE OF EQUAL LENGTH MATCHING LONGEST TUBE.

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TOLERANCES

DECIMALS	ANGULAR
.XX ± .05	.XX ± .05
.XXX ± .010	

DO NOT SCALE DRAWING

DRAWN BY: J. FISHER
DATE: 11−5−07

CHECKED BY:
DATE:

APPROVED BY:
DATE:

MATERIAL: SEE COMPUTER BOM 102316−1

FINISH: N/A

HEATH CONSULTANTS
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(713) 844−1300

TITLE: SCHEMATIC, FLOW, MOBILE KIT, 4 CONE, NEW STD.

FILE NAME:	SIZE	DWG. No.:	REV.
DP−IR102317−1	A	102317	C

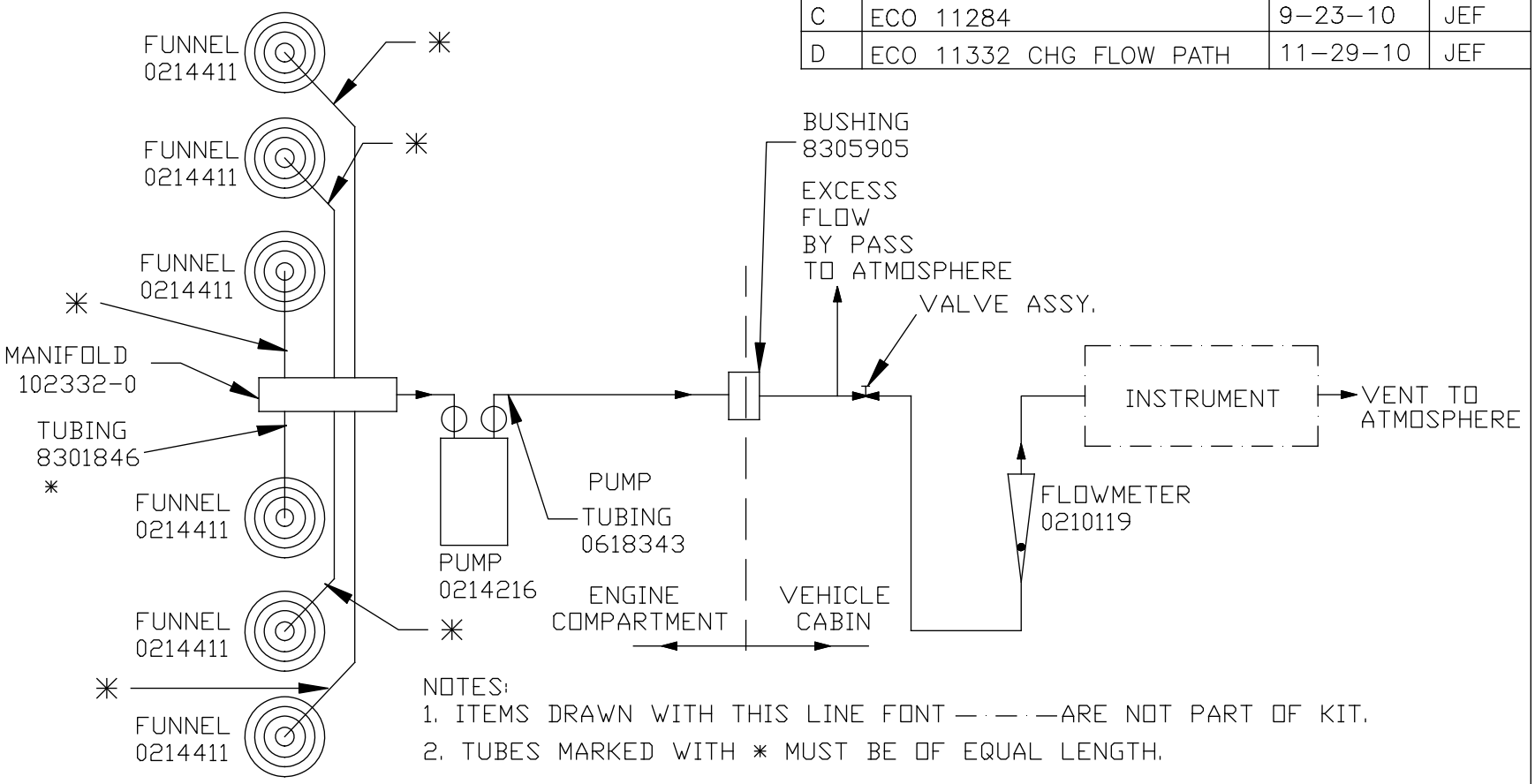
SCALE: NTS

SHEET 2 OF 2

PART NUMBER	DESCRIPTION
102333–0	SCHEMATIC, FLOW, MOBILE KIT, 6 CONE NEW STD.

REVISIONS

REV	DESCRIPTION	DATE	BY
C	ECO 11284	9–23–10	JEF
D	ECO 11332 CHG FLOW PATH	11–29–10	JEF



NOTES:
1. ITEMS DRAWN WITH THIS LINE FONT — — — ARE NOT PART OF KIT.
2. TUBES MARKED WITH * MUST BE OF EQUAL LENGTH.

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DIMENSIONS ARE IN INCHES
TOLERANCES
DECIMALS .XX ± .05 .XXX ± .010
ANGULAR .XX ± .05
DO NOT SCALE DRAWING

DRAWN BY: J. FISHER
DATE: 11–5–07

CHECKED BY:
DATE:

APPROVED BY:
DATE:

MATERIAL: SEE COMPUTER BOM 102331–0

FINISH: N/A

HEATH CONSULTANTS
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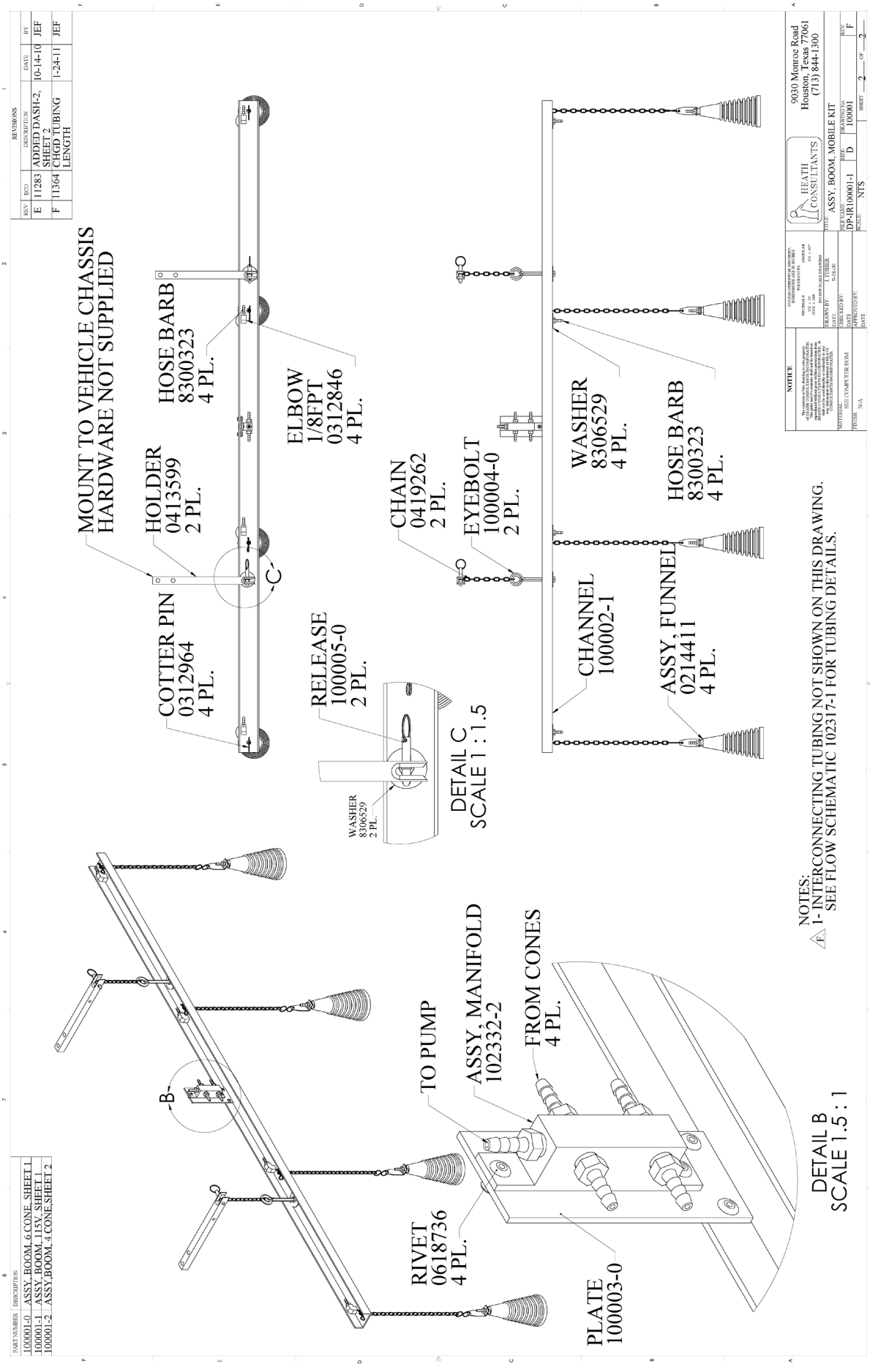
TITLE: SCHEMATIC, FLOW, MOBILE KIT, 6 CONE

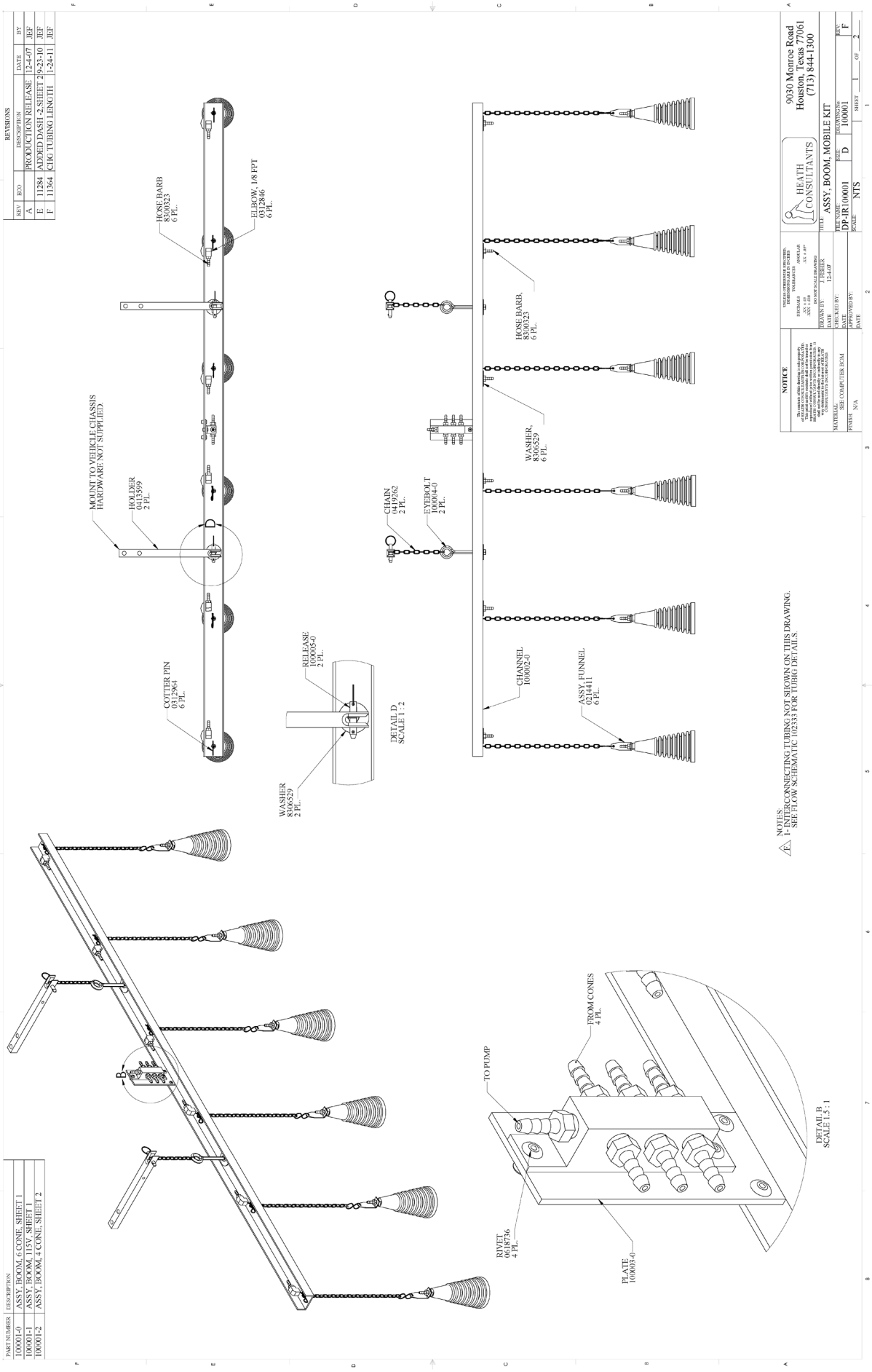
FILE NAME: DP–IR102333
SIZE: A
DWG. No.: 102333
REV.: D
SCALE: NTS
SHEET 1 OF 1

Schematic, Flow Drawing 102333

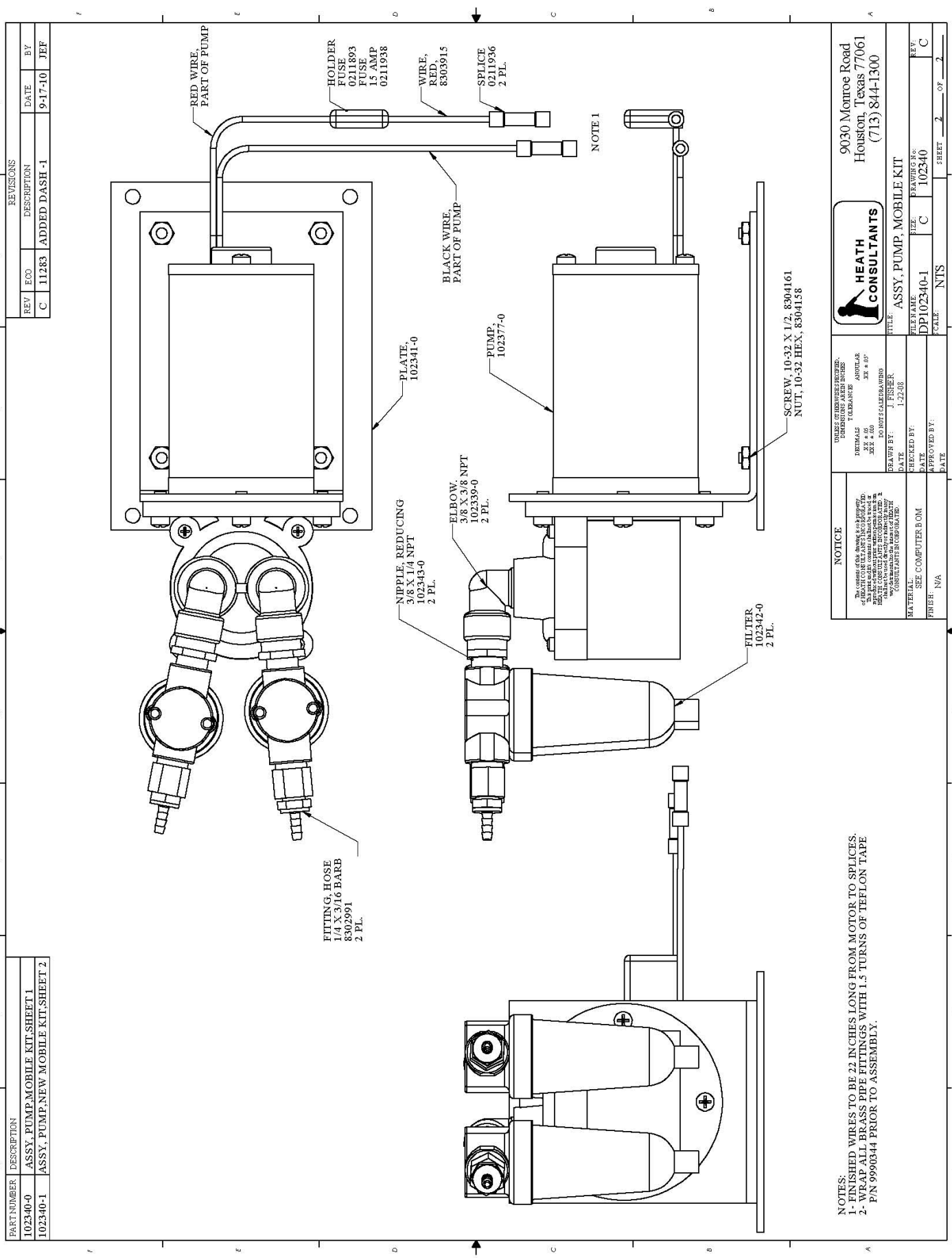
Assembly, Boom, 4 Cone 100001-2



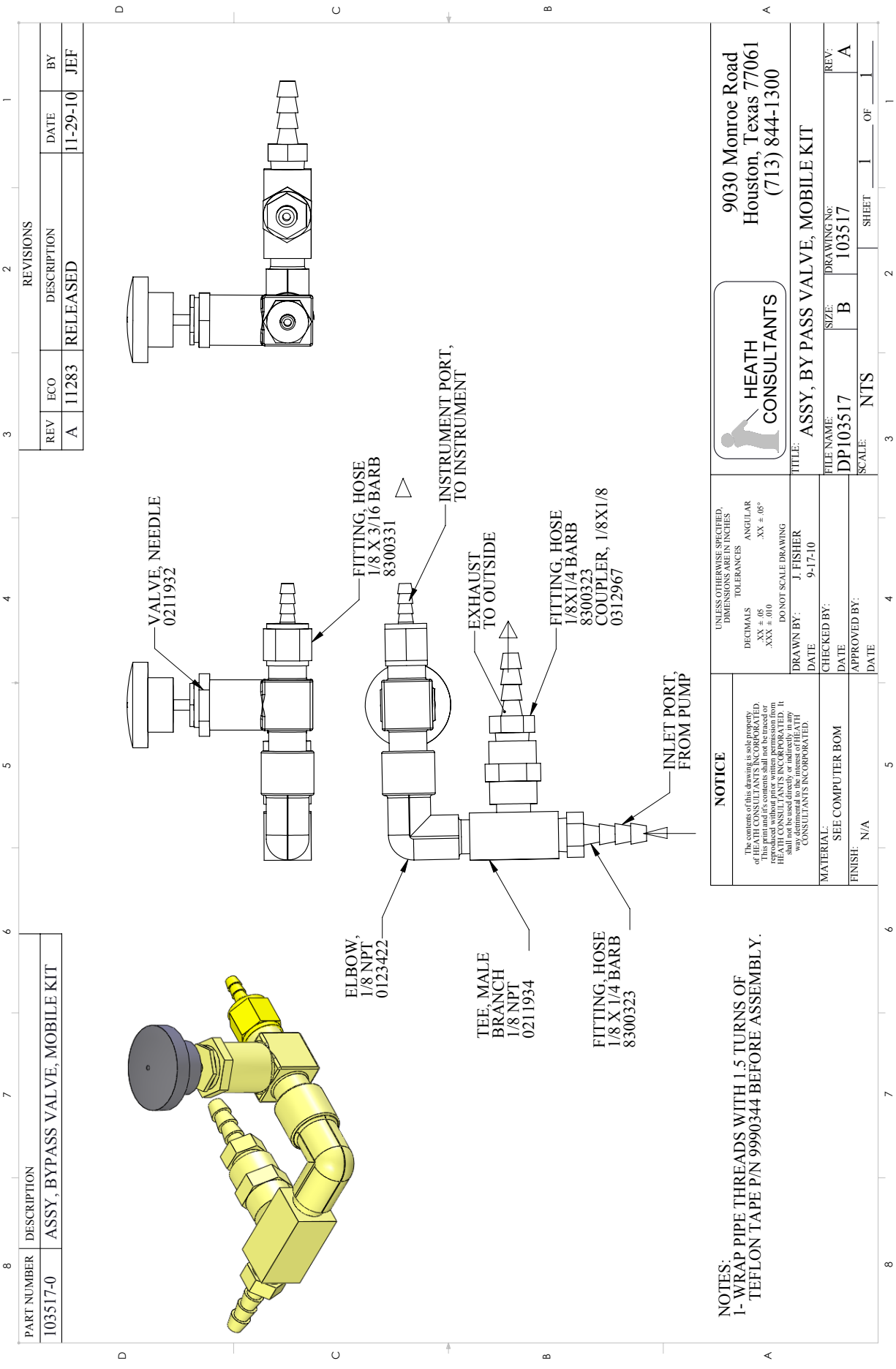
Assembly, Boom, 6 Cone 100001-0


REVISIONS
REV | ECO | DESCRIPTION | DATE | BY
A | | PRODUCTION RELEASE | 12-4-07 | JEF
E | 11284 | ADDED DASH -2 SHEET 2 | 9-23-10 | JEF
F | 11364 | CHG TUBING LENGTH | 1-24-11 | JEF
PART NUMBER | DESCRIPTION
100001-0 | ASSY, BOOM, 6 CONE, SHEET 1
100001-1 | ASSY, BOOM, 115V, SHEET 1
100001-2 | ASSY, BOOM, 4 CONE, SHEET 2
HOSE BARB 8300323 6 PL.
ELBOW, 1/8 FPT 0312946 6 PL.
MOUNT TO VEHICLE CHASSIS HARDWARE NOT SUPPLIED.
HOLDER 0611599 2 PL.
COTTER PIN 0312964 6 PL.
RELEASE 100065-0 2 PL.
WASHER 8306539 2 PL.
DETAIL D SCALE 1 : 2
CHAIN 0619262 2 PL.
EYEBOLT 100064-0 2 PL.
WASHER, 8306529 6 PL.
HOSE BARB, 8300323 6 PL.
CHANNEL 100002-0
ASSY, FUNNEL 0214411 6 PL.
NOTES:
1- INTERCONNECTING TUBING NOT SHOWN ON THIS DRAWING. SEE FLOW SCHEMATIC 102333 FOR TUBING DETAILS.
TO PUMP
FROM CONES 4 PL.
RIVET 0618736 4 PL.
PLATE 100003-0
DETAIL B SCALE 1.5 : 1
NOTICE
HEATH CONSULTANTS
9030 Monroe Road
Houston, Texas 77061
(713) 844-1300
ASSY, BOOM, MOBILE KIT
DP-IR100001
D
100001
F
NTS
SHEET 1 OF 2

Assembly, Vehicle Pump Drawing 102340


RED WIRE, PART OF PUMP
HOLDER FUSE 0211893 FUSE 15 AMP 0211938
WIRE, RED, 8303915
SPLICE 0211936 2 PL.
NOTE 1
BLACK WIRE, PART OF PUMP
PLATE, 102341-0
PUMP, 102377-0
SCREW, 10-32 X 1/2, 8304161
NUT, 10-32 HEX, 8304158
NIPPLE, REDUCING 3/8 X 1/4 NPT 102343-0 2 PL.
ELBOW, 3/8 X 3/8 NPT 102339-0 2 PL.
FILTER 102342-0 2 PL.
FITTING, HOSE 1/4 X 3/16 BARB 8302991 2 PL.
REVISIONS
REV ECO DESCRIPTION DATE BY
C 11283 ADDED DASH -1 9-17-10 JEF
PART NUMBER DESCRIPTION
102340-0 ASSY, PUMP,MOBILE KIT,SHEET 1
102340-1 ASSY, PUMP,NEW MOBILE KIT,SHEET 2
NOTICE
HEATH CONSULTANTS
9030 Monroe Road
Houston, Texas 77061
(713) 844-1300
TITLE: ASSY, PUMP, MOBILE KIT
FILE NAME: DP102340-1
SIZE: C
DRAWING No: 102340
REV: C
SCALE: NTS
SHEET 2 OF 2
DRAWN BY: J. FISHER
DATE 1-22-08
CHECKED BY:
APPROVED BY:
MATERIAL: SEE COMPUTER BOM
FINISH: N/A
NOTES:
1- FINISHED WIRES TO BE 22 INCHES LONG FROM MOTOR TO SPLICES.
2- WRAP ALL BRASS PIPE FITTINGS WITH 1.5 TURNS OF TEFLON TAPE P/N 9990344 PRIOR TO ASSEMBLY.

Assembly, By Pass Valve 103517


REVISIONS
REV | ECO | DESCRIPTION | DATE | BY
A | 11283 | RELEASED | 11-29-10 | JEF
PART NUMBER | DESCRIPTION
103517-0 | ASSY, BYPASS VALVE, MOBILE KIT
VALVE, NEEDLE 0211932
FITTING, HOSE 1/8 X 3/16 BARB 8300331
INSTRUMENT PORT, TO INSTRUMENT
EXHAUST TO OUTSIDE
FITTING, HOSE 1/8X1/4 BARB 8300323
COUPLER, 1/8X1/8 0312967
INLET PORT, FROM PUMP
ELBOW, 1/8 NPT 0123422
TEE, MALE BRANCH 1/8 NPT 0211934
FITTING, HOSE 1/8 X 1/4 BARB 8300323
NOTES:
1- WRAP PIPE THREADS WITH 1.5 TURNS OF TEFLON TAPE P/N 9990344 BEFORE ASSEMBLY.
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DECIMALS ANGULAR
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.XXX ± .010
DO NOT SCALE DRAWING
DRAWN BY: J. FISHER
DATE 9-17-10
CHECKED BY:
DATE
APPROVED BY:
DATE
MATERIAL: SEE COMPUTER BOM
FINISH: N/A
HEATH CONSULTANTS
9030 Monroe Road
Houston, Texas 77061
(713) 844-1300
TITLE: ASSY, BY PASS VALVE, MOBILE KIT
FILE NAME: DP103517
SIZE: B
DRAWING No: 103517
REV: A
SCALE: NTS
SHEET 1 OF 1

CHAPTER TWO

DP Mobile Kit Operation

DP4 Mobile Kit Operating Instructions:
Turn instrument on. For warm up and operating instructions see the DP 4 instruction manual.

Connect the Instrument Sample tube from the Flowmeter to the instrument.

Turn Secondary Pump ON.

Bump test the system injecting test gas (butane lighter or 1000 ppm methane or higher) into each cone one at a time. Typical response time should be less than 4 seconds.

The system is now ready for survey.

DP-IR Mobile Kit Operating Instructions:
Turn Instrument on. For warm up and operating instructions see the DP-IR instruction manual.

Connect the Instrument Sample tube to the instrument.

Turn Secondary Pump ON.

Bump test the system by injecting test gas (1000 ppm methane or higher) into each cone one at a time. Typical response time should be less than 4 seconds.

The system is now ready for survey.

CHAPTER THREE

DP Mobile Kit Maintenance

For detailed instrument maintenance see the DP4 or DP-IR instruction manual.

Daily:
- Check the Secondary Pump Assembly filters for water/dirt and the DP filters for dirt. Remove, replace, and empty as needed.
- Check cone height.

Once a week:
- Use a vacuum gauge to measure the Secondary Pump vacuum pressure. The vacuum pressure should not be less than 12 in WC.
- Blow out sample lines and cones with compressed air. Disconnect the line from the Secondary Pump inlet and blow out through the cones.

CAUTION: Do not use high pressure to the instrument, severe damage may occur.

Filters: Dirty filters restrict air flow and if not corrected could lead to possible motor overloading and early pump failure. Check the filters periodically and clean them when necessary by removing the elements from the filter and replace.

SYSTEM PARTS LIST

PART NO.	*DESCRIPTION*	*QUANTITY*
0210119	FLOWMETER, .6-5 LPM	1
102345-0	ELEMENT, FILTER	4
103137	FUSE, 3AG SLO BLO, 15 A.	2
0211942	CLAMP, CABLE, SELF ADH.	8
102314-0	CABLE, PUMP POWER	1
102340-1	PUMP, SECONDARY	1
0214411	ASSY, FUNNEL	4 or 6
0413819	POST, SADDLE	1
0414193	PLATE, FLOOR MOUNTING	1
8301846	HOSE, 3/16 ID X 5/16 OD	30 ft
101807-0	INVERTER, 12 V – 120 V	1
102309-0	ASSY, SADDLE	1
102315-0	MANUAL, DP SERIES MOBILE	1
8300319	TIE, CABLE	16
103517-0	ASSY, BYPASS VALVE	1
102322-0	PLATE, SUPPORT	1
0111683	SCREW, 5/16-18 X ½ SET	2
8304160	SCREW, ¼-20 X 1-1/2	4
8305905	BUSHING, HEYCO	1
100026-0	WEDGE, FLOOR MOUNT	2
8306610	BOLT, ¼-20 X 1-1/2 HEX	4
8304159	NUT, ¼-20 KEP	8
0618343	Hose, 1/8 ID x ¼ OD	4 ft

REFERENCE DRAWINGS

102309	Assy, Instrument Saddle
102318	Schematic, Wiring
102317	Schematic Flow, 4 Cone
102333	Schematic, Flow Drawing, 6 Cone
100001-2	Assy, Boom 4 Cone
100001-0	Assy, Boom 6 Cone
102340	Assy, Pump
103517	Assy, By Pass Valve

CHAPTER FOUR

DP Mobile Kit Service Information

Warranties and Warranty Repair:
All instruments and products manufactured by Heath Consultants Incorporated are warranted to be free from defects in material and workmanship for one year from date of shipment.

The warranty on authorized repairs in the Houston factory service center (FSC) is 90 days materials and 30 days labor. This repair warranty does not extend any other applicable warranties.

Our warranty covers only failures due to defects in materials or workmanship which occur during normal use. It does not cover failure due to damage which occurs in shipment, unless due to improper packaging. It does not cover failures which result from accident, misuse, abuse, neglect, mishandling, misapplication, alteration, modification, or service other than at a Heath Consultants warranty repair location.

Heath Consultants responsibility is expressly limited to repair or replacement of any defective part, provided the product is returned to an authorized warranty repair location, shipped prepaid, and adequately insured. Return shipping and insurance will be at no charge to the purchaser.

We do not assume liability for indirect or consequential damage or loss of any nature in connection with the use of any Heath Consultants product.
There are no other warranties expressed, implied, or written except as listed above.

Return Procedure:
The following suggestions will expedite the repair of your equipment:
1. Contact Heath Factory Service at 1-800-432-8487 to request a repair form. The form is available on-line at www.heathus.com
2. Package carefully, using original shipping carton if available, and return all components including the repair form.

The repair from request information such as complete shipping and billing addresses, product name, model number or serial numbers. Also include a brief description of the problem you are experiencing and the person and phone number to be contacted for additional information and approvals.

CUSTOMER ASSISTANCE, MANUFACTURING AND SERVICE LOCATIONS

If for any reason assistance is required, technical or otherwise, please contact Heath Customer Service at 1-800-HEATH-US (1-800-432-8487).

CORPORATE HEADQUARTERS

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Phone: (713) 844-1300
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MANUFACTURING AND WARRANTY SERVICE CENTERS

Heath Consultants Factory Service Center
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Houston, Texas 77061
Phone: (713) 844-1350
Fax: (713) 844-1398

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